> 0.1 wt%. One specific example of the fuel has a sulfur content of 0.01%. See column 2, lines 3-10 and 60-67 and col. 4, lines 11-42.
>
> Office Action of November 26, 2002, pages 2-3.

The Examiner admitted that Barry "does not disclose the use of the fuel in a rail fuel system compression ignition engine". Id. at page 3. However, the Examiner suggested that:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the teachings of the Barry reference by utilizing the fuel of Barry in a rail fuel system compression ignition engine because one would utilize a known diesel fuel in any diesel engine regardless of its specific use and expect the engine to work effectively.

Applicants respectfully disagree. Applicants respectfully submit that it would not have been obvious to utilize the fuel of Barry in a rail fuel system compression ignition engine.

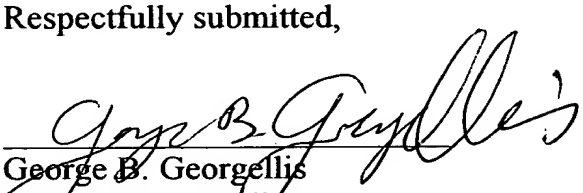
First, it is generally recognized in this art that generally different applications often require different grade fuels having specific performance specifications. For example, Barry states that "[a] number of performance specifications have been established for diesel fuels of different grades depending upon service application". Barry, column 1, lines 15-17. Barry discloses and claims a fuel diesel composition that exhibits low emissions and some other properties, which is suitable for use in underground diesel-engine mining equipment. Barry does not suggest that the low emissions diesel fuel could be used in common rail fuel system compression ignition engines. Underground diesel-engined mining equipment typically utilize conventional diesel engines while the present invention relates to common rail fuel system compression ignition engines.

Prior to the present invention it was widely believed by people skilled in this art, that common rail fuel system compression engines, such as the engine of a Mercedes C220 CDi vehicle, could not be operated with good performance with low

density fuels. See generally pages 1, 2 and 3 of the present application. This is because the use of low density diesel fuels in conventional fuel systems diesel engines was expected to reduce engine output and degrade vehicle performance. Id. at page 1, line 28 to page 2, line 2. It has been unexpectedly discovered that certain low density diesel fuels having specific density and viscosity ranges, as claimed in the present application, can be used in a common rail fuel system compression ignition engine with satisfactory performance. Id. at page 2, lines 11-18, page 3, lines 6-13. The vehicle performance was measured by comparing wide open throttle acceleration in fifth gear between a Mercedes C220 CDi engine (first commercial European common rail diesel vehicle engine) and a conventional diesel engine. Id. pages 4, 5 and 6, Tables 1 and 2. Acceleration times were shown to be about the same indicating no performance difference between the tested invented fuels. Id. page 6, lines 3-12. Thus, "operation of common rail diesel engines in diesel fuels of lower density and viscosity, while resulting in a significant reduction in emissions has no significant effect on overall vehicle performance, as determined by acceleration". Id. page 6, lines 14-17.

For at least the foregoing reasons applicants respectfully request reconsideration and allowance of all pending claims.

Respectfully submitted,



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[X] Pursuant to 37 CFR 1.34(a)

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PENDING CLAIMS

1. A method for reducing emissions of common rail fuel system compression ignition engine by running said engine on a fuel comprising a diesel fuel characterized by having a density of about 0.83 g/cc or less and a viscosity of about 3 cSt at 40°C.

2. The method of claim 1 wherein the diesel fuel is characterized by having a density of about 0.825 g/cc or less.

3. The method of claim 1 wherein the diesel fuel is characterized by having a density of about 0.820 g/cc or less.

4. The method of claim 1 wherein the diesel fuel is characterized by having a viscosity of about 2.6 cSt or less at 40°C.

5. The method of claim 2 wherein the diesel fuel is characterized by having a viscosity of about 2.6 cSt or less at 40°C.

6. The method of claim 3 wherein the diesel fuel is characterized by having a viscosity of about 2.6 cSt or less at 40°C.

7. The method of claim 1 wherein the diesel fuel is characterized by having a viscosity of about 2.1 cSt or less at 40°C.

8. The method of claim 2 wherein the diesel fuel is characterized by having a viscosity of about 2.1 cSt or less at 40°C.

PENDING CLAIMS (continued)

9. The method of claim 3 wherein the diesel fuel is characterized by having a viscosity of about 2.1 cSt or less at 40°C.

10. The method of claim 1, 2, 3, 4, 5, 6, 7, 8 or 9 wherein the diesel fuel is characterized by having a sulfur content of about 0.05 wt% or less.

11. The method of claim 10 wherein the diesel fuel is characterized by having a sulfur content of about 0.04 wt% or less.

12. The method of claim 10 wherein the diesel fuel is characterized by having a sulfur content of about 0.03 wt% or less.